

## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>W 5650-001 FF</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/SE 2003/001070</b>	International filing date ( <i>day/month/year</i> ) <b>23.06.2003</b>	Priority date ( <i>day/month/year</i> ) <b>28.06.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>B01F 13/00, A61F 2/46</b>		
Applicant <b>Asept Medical AB et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (*sent to the applicant and to the International Bureau*) a total of \_\_\_\_\_ sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s))  
\_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand <b>23.01.2004</b>	Date of completion of this report <b>24.05.2004</b>
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Form PCT/IPEA/409 (cover sheet) (January 2004)

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001070

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001070

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims <u>1-10</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-10</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-10</u>	YES
	Claims _____	NO

**2. Citations and explanations (Rule 70.7)****The invention**

The invention concerns a device for mixing and delivering high viscosity pastes, like bone cement. The device includes a cylinder, a piston reciprocable in the cylinder, a piston rod displaceable and rotatable in the piston and forming mixing means for paste received in the cylinder. There are also latch means for interconnecting the piston and the piston rod to allow displacement of the piston in the cylinder for deposition of paste outside the cylinder.

Devices for application of bone cement known to date have drawbacks. For instance, it is not possible to use the device for high viscosity bone cement, the mixing cannot be performed under vacuum and the mixing quality is poor.

These deficiencies are overcome in that the latch means are provided by jamming. The means allow the piston rod to be locked to the piston at any position along the piston rod.

**Cited document**

This document is cited in the International Search Report. The citation is considered to describe the most relevant prior art:

D1) WO 01/83094 A1

A bone cement mixing and injection device is already known from D1. The device comprises a cylinder (2), a piston (20) and a shaft (8). There is also an agitator (16)

.../...

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

which is mounted on the shaft, which follows any rotary or axial movement of the shaft. The piston can be coupled to the shaft by a bayonet-type mechanism (fig. 1 & p 6, lines 7-10 and p 7, lines 12-22). Pushing a handle (52, will cause the piston to translate toward a first end wall pushing the cement out to a delivery port and nozzle (p 11, lines 13-17).

**Analysis**

D1 is cited in the International Search Report as a document of particular relevance and is now considered to show the closest background art. The reason for this review is that claim 1 specifies that the piston rod can be locked to the piston at any position along the piston rod.

These features are not revealed in D1. Consequently, D1 does not anticipate the technique of claim 1.

The device for mixing and applying a paste like bone cement according to claim 1 is considered to give rise to an unexpected technical effect, i.e. the possibility to use the device for high viscosity bone cement. Thus, this claim is not considered to describe a technique that is obvious to a person skilled in the art.

**Conclusion**

In accordance with the arguments stated above, the invention in claims 1-10 is novel, considered to involve an inventive step and has industrial applicability.